

PROCEEDINGS  
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A NEW CRAYFISH OF THE GENUS *CAMBARUS*  
FROM GEORGIA (DECAPODA, ASTACIDAE)

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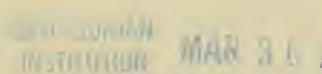
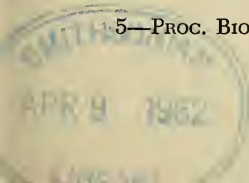
From a small cascading, but sluggish, tributary of the Conasauga River flowing through a deep wooded ravine two miles east of Chatsworth, Georgia, a small collection of crayfishes was obtained by turning the large stones in the stream bed. In April 1958, when Thomas L. Johnson and the senior author were there, little water was flowing over the rocky bottom, and crayfishes were difficult to find. Only two species were collected—four specimens of the one described below and two juvenile females of *Cambarus striatus* Hay.

The new crayfish is a member of the *Asperimanus* Group and has its closest affinities with *Cambarus asperimanus* Faxon (1914: 391).

***Cambarus conasaugaensis*, new species**

*Diagnosis:* Rostrum short with thickened convergent margins, upper surface with scattered punctations; acumen indistinctly delimited at base; postorbital ridges terminate cephalically in small corneous tubercles; suborbital angle absent; areola broad and moderately long, four to five times longer than broad with three or four punctations in narrowest part, and constituting from 35 to 37.5 per cent of length of carapace; lateral spines or tubercles absent from sides of carapace immediately caudal to cervical groove; cephalolateral portion of carapace with a few tubercles, remainder of carapace, except for dorsal gastric region which is polished, punctate; hooks on ischiopodites of third pereopods in male. First pleopod of first form male terminating in two parts: central projection corneous, curved throughout its length with apex directed proximally; mesial process bulbous but tapering distally and extending caudolaterad, the apex extending caudad of tip of central projection. Annulus ventralis as figured.

*Holotypic Male, Form I:* Body subovate, slightly depressed. Abdomen narrower than thorax (13.1 and 14.9 mm in widest parts respectively). Width of carapace greater than depth in region of caudodorsal margin of cervical groove (14.9 and 11.7 mm). Greatest width of carapace near midlength of areola.



Areola broad (four times longer than wide) with three or four punctations across narrowest part; cephalic section of carapace 1.2 times longer than areola; length of areola 37.2 per cent of entire length of carapace.

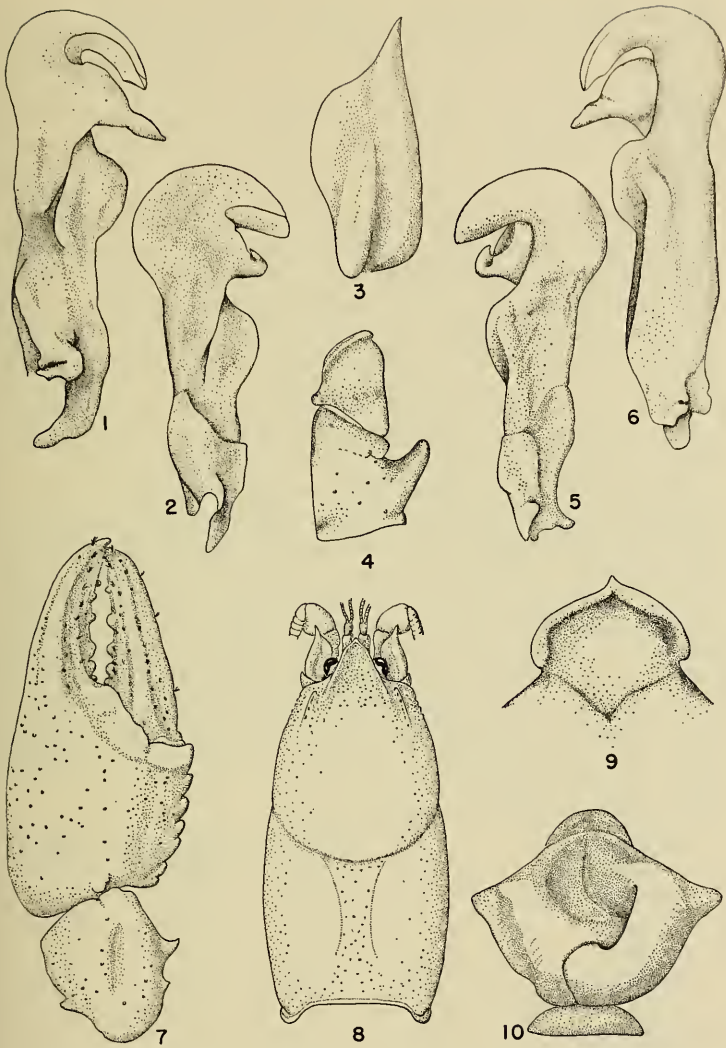
Rostrum with thickened convergent margins which lack marginal spines or tubercles; upper surface concave and punctate; acumen not distinctly delimited at base although rostral margins are somewhat suddenly contracted at its base; apex extending almost to distal extremity of penultimate segment of peduncle of antennule. Subrostral ridges weakly developed and evident in dorsal aspect for only a short distance at base of rostrum.

Postorbital ridges of moderate length, depressed, pitted by punctations (some coalescing) dorsolaterally, and terminating cephalically in very weak tubercles. Suborbital angle lacking. Branchiostegal spine small but acute and corneous. Surface of carapace mostly punctate except for polished dorsal gastric area and a few tubercles on lateral gastric area. Lateral spines or tubercles lacking immediately caudal to cervical groove.

Abdomen shorter than carapace (26.7 and 28.2 mm). Cephalic section of telson with two spines in each caudolateral corner.

Epistome (Fig. 9) subplane with elevated (ventrally) and somewhat thickened margins gently curving from broad base to short cephalomedian projection. Antennules of the usual form with a prominent corneous spine at base of distal third on ventral surface of basal segment. Antennae extend caudad to second abdominal tergum. Antennal scale (Fig. 3) with a heavy lateral portion bearing a prominent distal spine and a comparatively narrow lamellar portion.

Left chela (Fig. 7) subovate in cross section with palm inflated (right chela probably regenerated); all surfaces punctate except inner margin of palm and opposable margins of fingers. Inner margin of palm with a single row of six tubercles. Fingers slightly gaping and both with a prominent submedian longitudinal elevation and a less conspicuous and shorter one near opposable surfaces. Opposable margin of dactyl with five rounded tubercles along proximal three-fourths of finger, the second and third from base largest. Opposable margin of immovable finger also with a row of rounded tubercles opposing, except the distalmost, the corresponding tubercles on dactyl; distal tubercle situated slightly proximad of corresponding one on dactyl; in addition, a single tubercle present at a level below members of above-mentioned row just distal to distalmost tubercle in the row; minute denticles between and distal to fourth and fifth tubercles. Lateral margin of immovable finger slightly costate. Carpus longer than broad with a shallow, slightly oblique furrow above; dorsal and lateral surfaces punctate; mesial surface with a prominent spike-like tubercle and a smaller one proximal to it; lower distal margin with a prominent tubercle and a smaller one proximomesial to it. Merus with upper distal extremity emarginate; one tubercle present proximad of emargination and a few punctations flanking it, and others scattered on upper mesial and lateral surfaces; lower surface with a lateral row of two spike-like tubercles and a mesial row of six (corresponding rows on right cheliped consist of three and nine, respectively).



FIGS. 1-10. *Cambarus conasaugaensis*, new species. FIG. 1.—Mesial view of first pleopod of male, form I. FIG. 2.—Mesial view of first pleopod of male, form II. FIG. 3.—Antennal scale. FIG. 4.—Basipodite and ischiopodite of third pereiopod of male, form I. FIG. 5.—Lateral view of first pleopod of male, form II. FIG. 6.—Lateral view of first pleopod of male, form I. FIG. 7.—Distal podomeres of cheliped of male, form I. FIG. 8.—Dorsal view of carapace of male, form I. FIG. 9.—Epistome. FIG. 10.—Annulus ventralis.

Lower margin of ischiopodite with a single well defined small tubercle.

Hooks on ischiopodites (Fig. 4) of third pereopods only; hooks strong and simple. Coxa of fourth pereopod with a prominent caudomesial projection.

First pleopod (Figs. 1 and 6) extends cephalad to coxopodite of third pereopod when abdomen is flexed. Tip terminating in two parts (see diagnosis).

*Allotypic Female:* Differs from the holotype in only a few details—inner margin of palm of chela with a row of seven tubercles; opposable margin of dactyl with a row of six tubercles which do not oppose corresponding tubercles on immovable finger. Merus with spike-like tubercles corresponding to those on right cheliped of holotype.

Annulus ventralis (Fig. 10) with a prominent U-shaped, elevated, caudal wall; cephalomedian area depressed with a shallow trough extending from cephalic margin curving gently sinistroidally, following contour of dextral tongue; sinus in the form of an oblique, inverted U, crossing caudal wall; fossa situated on sinistral side of median line between tongue and elevated caudal wall.

*Morphotypic Male, Form II:* Differs from the holotype in the following respects: rostrum extends cephalically almost to distal end of peduncle of antennule; antenna extends caudad to third abdominal tergum; opposable margin of dactyl of left chela with a row of six tubercles, and that of immovable finger with a row of four; opposable margins of both fingers of both chelae with minute denticles distal to third tubercle from base; right merus with lower surface bearing an inner row of 10 tubercles and an outer one of three, those on left consisting of eight and two, respectively; lower margin of right carpus with two tubercles.

First pleopod (Figs. 2 and 5) with neither terminal corneous; mesial process apparently shrunken in preservation; shaft with a distinct juvenile oblique suture.

*Measurements:* As follows (in millimeters):

	Holotype	Morphotype	Allotype <sup>1</sup>
Carapace—			
Height .....	11.7	10.2	—
Width .....	14.9	12.9	—
Length .....	28.2	26.7	27.0
Areola—			
Width .....	2.6	1.9	—
Length .....	10.5	9.4	—
Rostrum—			
Width .....	4.6	4.5	4.4
Length .....	4.7	4.8	4.8
Chela—			
Length of inner margin of palm	8.2	7.4	7.0
Width of palm .....	10.3	8.4	8.7
Length of outer margin of hand	21.9	19.6	19.3
Length of dactyl .....	12.3	10.0	10.4

<sup>1</sup> Carapace of allotype partially crushed.

*Type Locality:* A small tributary of the Conasauga River, two miles east of Chatsworth, Murray County, Georgia on U. S. Rte. 76. See introductory paragraph.

*Disposition of Types:* In the United States National Museum are the holotypic male, form I (107156), morphotypic male, form II (107158), and allotypic female (107157). A second form male paratype is retained in the personal collection of the senior author. Only the four specimens of this species are available.

*Relationships:* *Cambarus conasaugaensis* has its closest affinities with *Cambarus asperimanus*. The similarities may be seen in the conformation of the carapace, chelae, and first pleopods of the first form male. They may be distinguished easily by the absence of long and conspicuous setae on the chelae of the former and slight differences in the first pleopods of the first form males and annuli ventrales of the females.

#### LITERATURE CITED

- Faxon, Walter. 1914. Notes on the crayfishes in the United States National Museum and the Museum of Comparative Zoology with descriptions of new species and subspecies to which is appended a catalogue of the known species and subspecies. Mem. Mus. Comp. Zool., Harvard Coll., 40 (8): 351-427, 13 pls.

